Zheyuan (Charles) Xu

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EDUCATION

University of Washington

MS in Computer Science and Systems *Sep 2020 - Dec 2021*

Georgia Institute of Technology

BS in Computer Science and Electrical Engineering *Aug 2015 – May 2020*

EXPERIENCE

Machine Learning Engineer June 2021 – Sep 2021

RATLab LLC *Seattle, WA*
- Adaptive algorithm development for the BreathMap project

Research Assistant Jan 2020 – Aug 2020

GTSR Lab *Atlanta, GA*
- Mechatronics design and Firmware development in C++ for GT-MAB 2.0
- Improved communication link between blimp and ground station, reduced latency by more than 150 times

PATENTS

Flight Control System for Miniature Aerial Robots

A low-power, low-latency, lightweight headless flight control system suite for indoor robotics systems
- https://licensing.research.gatech.edu/technology/flight-control-system-miniature-aerial-robots

Highly Effective Motion Marker for Small Aerial Robots

A robust, lightweight, low-power active infrared localization marker
- https://licensing.research.gatech.edu/technology/highly-effective-motion-capture-marker-small-aerial-robots

SELECTED PROJECTS

GAIA 2.0 | *A web app for monitoring natural disasters and monitoring rescue missions* Feb 2021 – Apr 2021
- Designed the frontend animation in Three.js WebGL, HTML and CSS
- Implemented the backend in Azure VM with RabbitMQ and BigQuery for real-time information updates

AdaEye | *A voice-controlled navigation and cognitive app for visually impaired* Feb 2021
- Designed the frontend in Swift, allowing **voice-only** login, registration and scan of surroundings
- Hooked up Arduino and camera gimbal, enabling voice control of gimbal by integrating RabbitMQ on Azure VM
- Built a chatbot on the frontend, enabling voice query and answer by integrating GPT-3 and AVFoundation

Neomap | *An augmented-reality app for share your new year resolution and relive your older memories* Dec 2020
- Integrated hand gesture detection with optimized **Reality Kit** code from WWDC 2020, allowing real-time keyboard-less reaction to user posts
- Integrated **Firebase** for storing user information, user posts, and user authentication

TECHNICAL SKILLS

Languages: Java, Python, C/C++, C#, SQL (Azure, CockroachDB and BigQuery), JavaScript, HTML/CSS, Dart, Swift, Matlab, CUDA C++
Frameworks: Flutter, React, Node.js, Three.js, Cannon.js, Flask, Unity, RabbitMQ, ROS, GCP, Azure, AWS
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: Pytorch, Tensorflow, pandas, NumPy, Matplotlib, Numba
CAD: EAGLE, SOLIDWORKS, ALTIUM, Blender

AWARDS AND HONOR

Best Use of Google Cloud - MakeHarvard 2021
Best Use of Google Cloud and Radar.io Most Creative Award - MLH New Year New Hack 2021
First Prize - Campus 2030

MENTORSHIP

Technical mentor for **Cal Hacks** *hello:world* hackathon hosted at UC Berkeley (live **Flutter** and **React** debugging for participants)